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10/664,212	09/17/2003	Eun Seuk Choi	1746.01	3899

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EXAMINER	
HOANG, HIEU T	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/664,212	CHOI, EUN SEUK	
	Examiner	Art Unit	
	Hieu T. Hoang	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the communication filed on 09/17/2003.

2. Claims 1-16 are pending and presented for examination.

Claim Objections

3. Claims 1-16 are objected to because of the following informalities. The claims recites the limitation "SGD". However, SGD is an abbreviation and its meaning should be further clarified in the claims.

4. Claim 1 contains the term "1:N signal" on line 14. It is not clearly understood what the term means. For examining purpose, the term will be treated as "at least one signal."

5. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-3 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tyrrell, III (US 7,062,527, hereafter Tyrrell), in view of Official Notice (hereafter ON).

8. For claim 1, Tyrrell discloses an integrated graphic rendering system, wherein the system is connected to one or more users via a network, wherein each of the users has a console and an SGD production tool (fig. 11, client 504 with at least one render frame or render job 508), the system comprising:

a) one or more SGD handling agent, wherein each of the SGD handling agents is installed in the console, selectively extracts SGD from the SGD produced by the SGD production tool (Tyrrell, col. 6 lines 62-66, a render job is associated with a job description and the package is generated by an client application which can be read as an SGD handling agent), transforms the extracted SGD into a predetermined format, compresses the transformed SGD (Tyrrell, col. 16, 5-9, render job and support files are compressed into one package), and outputs the compressed SGD to the network (fig. 4, step 70, submitting render files to be rendered by a rendering system of render servers and schedule server and resource server);

b) an integrated rendering management server (fig. 11, local and remote sites with render servers, also with schedule and resource servers combined), wherein the integrated rendering management server has a 1:N signal connection with the SGD handling agents via the network (fig. 11, multiple connections between the two sites suggest multiple clients are supported), collects the SGD that are output from the SGD handling agents (Tyrrell, col. 17 lines 25-32, arrival of render job packages), and decompresses the collected SGD (Tyrrell, col. 17 lines 36-39, render server unpacks or decompresses the render job and support files); and

c) a plurality of rendering execution tools, wherein the rendering execution tools have parallel signal connections with the integrated rendering management server (fig. 2, col. 5 lines 50-57, render slots controlled by software rendering packages at the render server such as RenderMan or Maya, wherein render slots concurrently process different render jobs from clients); wherein the integrated rendering management server sends distributed rendering commands to the rendering execution tools, monitors rendering execution status of the rendering execution tools (Tyrrell, col. 9 lines 9-16, distributing render frames to render slots, col. 11 lines 11-14, status of render jobs or errors are reported);

wherein each of the rendering execution tools performs distributed rendering of the SGD under control of the integrated rendering management server, creates rendered data, and outputs the rendered data to the integrated rendering management server; and wherein the integrated rendering management server collects and stores the rendered data (fig. 2, col. 5 lines 50-57, render slots in a render server concurrently process different render jobs from clients, fig. 4 step 74, store rendered jobs after finishing rendering).

Tyrrell does not explicitly disclose checking for rendering errors.

However, Official Notice is taken that checking for rendering errors is well known in the art.

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Tyrrell and what has been known in the art to further provide the rendering tools such as Maya (disclosed by Tyrrell, col. 5 lines 50-57) with the error checking feature that can increase the efficiency of rendering graphics.

9. For claim 2, Tyrrell-ON discloses the invention as in claim 1. Tyrrell-ON further discloses each of the SGD handling agents comprises: a) a selective SGD extraction module that selects and extracts SGD that are essential for rendering process from the entire SGD that are produced by the SGD production tool (Tyrrell, col. 15 lines 21-26, 51-64, remote rendering depending on job description, e.g. big jobs requiring more processing power); b) an SGD transformation module that transforms the SGD into a predetermined format; and c) a compression management module that compresses the SGD (Tyrrell, col. 16, 5-9, render job and support files are compressed into one package).

10. For claim 3, Tyrrell-ON discloses the invention as in claim 2. Tyrrell-ON further discloses each of the SGD handling agents further comprises: a) a communication security module that encrypts the SGD (Tyrrell, col. 16 lines 43-45); and b) a communication module that sends the SGD to the integrated rendering management server (Tyrrell, col. 15 lines 28-35).

11. For claim 6, Tyrrell-ON discloses the invention as in claim 1. Tyrrell-ON further discloses the integrated rendering management server comprises:
a) a compression management module that manages compression and decompression of the SGD (Tyrrell, col. 17 lines 36-39, render server unpacks or decompresses the render job and support files);

b) a rendering operation command management module that has a signal connection with each of the rendering execution tools, and selectively commands the rendering operation of the SGD according to the individual operation status of the tool (Tyrrell, col. 5 lines 45-57, rendering slots processes render frames concurrently using tools such as Maya, a render slot can have 2 statuses: empty or free); and

c) a rendered data check module that checks the integrity of rendered data that were output from the rendering execution tools (Tyrrell, col. 16 lines 19-23, file integrity or corruption check).

12. For claim 7, Tyrrell-ON discloses the invention as in claim 1. Tyrrell-ON further discloses the integrated rendering management server further comprises:

a) a communication security module that manages the security of the SGD by performing encrypting and decrypting SGD (Tyrrell, col. 16 lines 43-45, encrypt render or rendered data for security purposes);

b) a communication state check module that checks the network operation status for the rendering execution tools and promptly reports any abnormality in the network operation status (Tyrrell, col. 13 lines 4-7);

c) a rendering error data check module that checks rendering error messages, and rendering warning messages that are sent by the rendering execution tools, and reports the results of the messages (ON);

d) a rendered data storage management module that receives, stores and manages the rendered data (fig. 4 step 74, store rendered data after finishing rendering);

e) an operation management module that selectively extracts operation information (Tyrrell, col. 11 lines 15-17); and

f) an accounting management module that monitors rendering cost occurrence for each user, and stores accounting data (Tyrrell, col. 16 lines 39-43, billing information).

13. For claim 8, Tyrrell-ON discloses the invention as in claim 7. Tyrrell-ON further discloses the integrated rendering management server further comprises an integrated rendering management module that collects the SGD transmitted from the SGD handling agents (fig. 4 step 70), manages procedures for distributed rendering of the SGD (fig. 4 step 72), and controls the compression management module, the rendering operation command management module, the rendered data check module, the communication security module, the communication state check module, the rendering error data check module, the rendered data storage management module, the operation management module, and the accounting management module (same rationale as in claim 7).

14. For claim 9, Tyrrell-ON discloses the invention as in claim 7. Tyrrell-ON further discloses the rendering execution tool comprises:

a) a rendering management module that has a signal connection with the integrated rendering management server, and manages the rendering processes (fig. 7 manager applications);

b) a rendering execution engine that performs rendering routines to render the SGD thereby creating the rendered data (fig. 1, render servers execute rendering jobs);

c) a data format transformation module that receives the rendered data that are output from the rendering execution engine, and transforms the format of the rendered data to a predetermined format (Tyrrell, col. 7 lines 24-26, Maya tool renders jobs according to client demand described in the job description);

d) an operation tracking module that has a signal connection with the rendering error data check module of the integrated rendering management server, and tracks and manages the rendering status of each of the rendering execution engines (Tyrrell, col. 9 lines 9-16, distributing render frames to render slots, col. 11 lines 11-14, status of render jobs or errors are reported, ON, Maya is a well known rendering tool with rendering error report feature); and

e) a transmission status check module that has a signal connection with the communication state check module of the integrated rendering management server, and checks the status of the network (Tyrrell, col. 13 lines 4-7);.

15. For claim 10, Tyrrell-ON discloses the invention as in claim 1. Tyrrell-ON further discloses the rendering execution tool comprises:

a) a rendering management module that has a signal connection with the integrated rendering management server, manages the rendering processes (Tyrrell, col. 5 lines 36-38, a rendering management module is a software module in the render servers that manages rendering tools such as Maya, operated by an operating system running on the render servers);

b) a rendering execution engine that performs rendering routines to render the SGD thereby creating the rendered data (Tyrrell, col. 7 lines 24-26, Maya tool); and

c) a data format transformation module that receives the rendered data that are output from the rendering execution engine, and transforms the format of the rendered data to a predetermined format (Tyrrell, col. 17 lines 36-39, render server can compress the rendered job or decompresses the render job and support files); wherein the rendering management module controls the rendering execution engine, and the data format transformation module.

16. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tyrrell, III, in view of Fisher et al. (US 2005/0034121, hereafter Fisher).

17. For claim 11, Tyrrell discloses a method for integrated graphic rendering, wherein one or more user consoles having SGD production tools are connected to an integrated rendering management server, wherein a plurality of rendering execution tools are connected to the integrated rendering management server (fig. 11, clients and render farms with render servers comprising render slots for rendering render jobs), the method comprising:

i) a console-side rendering target data handling process (fig. 11, client 504 with at least one render frame or job needs to be rendered); and

ii) a server-side rendering target data handling process (fig. 11, local and remote sites with render servers, also with schedule and resource servers combined); wherein the console-side rendering target data handling process comprises:

c) analyzing the opened SGD and extracting predetermined key information (Tyrrell, col. 6 lines 45-66, reading job description that can contain key information such as file directory);

d) checking the consistency of the key information (Tyrrell, col. 23, validate directory for existence of a file directory);

h) transmitting the SGD to the integrated rendering management server (Tyrrell, col. 6 lines 38-44).

Tyrrell does not explicitly disclose:

a) deciding whether an SGD rendering order event has been occurred;

b) selectively opening SGD that were produced by the SGD production tool when it is decided that an SGD rendering order event has occurred;

e) selecting SGD that are to be extracted according to the key information when it is decided that the key information is consistent; f) creating an SGD extraction list that incorporates the particulars of the selected SGD; and g) selectively extracting SGD based on the SGD extraction list; and

However, Fisher discloses:

a) deciding whether an SGD rendering order event has been occurred (fig. 3, [0034], user request input 302 to request a public package operation or an order operation);

b) selectively opening SGD that were produced by the SGD production tool when it is decided that an SGD rendering order event has occurred ([0043] lines 1-15, file specification is used to select files that belong to a software package such as files with a special extension (by using wildcards));

e) selecting SGD that are to be extracted according to the key information when it is decided that the key information is consistent; f) creating an SGD extraction list that incorporates the particulars of the selected SGD; and g) selectively extracting SGD based on the SGD extraction list (fig. 6, [0043] lines 1-5, [0046], lines 1-8, generating an extraction list of files that matches certain file specifications)

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Tyrrell and Fisher to speed up the process of selecting files for packaging based on file specification.

18. For claim 12, Tyrrell-Fisher discloses the invention as in claim 11. Tyrrell- Fisher further discloses the console-side rendering target data handling process further comprises between the step of selectively extracting SGD and the step of transmitting the SGD:

a) checking client-side rendering options (Fisher, [0043], file specification);

b) creating an SGD transmission list based on the extracted SGD and the client-side options (Fisher, fig. 6, [0043] lines 1-5, [0046], lines 1-8, generating an extraction list of files that matches certain file specifications);

c) transforming the SGD into a predetermined format; d) compressing the SGD; and e) encrypting the SGD (Tyrrell, col. 16, 5-9, render job and support files are compressed into one package col. 16 lines 43-45; col. 15 lines 28-35).

19. For claim 13, Tyrrell-Fisher discloses the invention as in claim 12. Tyrrell- Fisher further discloses the server-side rendering target data handling process comprises:

a) deciding whether an event of SGD input has been occurred (Tyrrell, fig. 4 step 72, receive render files from client);

b) decrypting and decompressing the SGD (Tyrrell, col. 16 lines 5-10, 43-45, files have to be decompressed before further rendering);

c) authenticating of the user (Tyrrell, col. 6 line 49);

d) selectively sending commands to the rendering execution tools according to the operation status of the individual rendering execution tools (Tyrrell, col. 5 lines 45-57, rendering slots processes render frames concurrently using tools such as Maya, a render slot can have 2 statuses: empty or free, jobs are assigned to empty or free slots);

e) checking the operation status of the rendering execution tools and deciding whether rendered data have been output from the rendering execution tools (Tyrrell, fig. 4 step 76, rendered job is acknowledged);

f) checking the integrity of the rendered data, and deciding whether there is a rendering error (Tyrrell, col. 16 lines 19-23, file integrity or corruption check);

g) storing the rendered data (Tyrrell, col. 16 lines 28-31);

h) compressing and encrypting the rendered data (Tyrrell, col. 16 l. 33-35 and 43-45); and

i) transmitting the rendered data (Tyrrell, col. 16 line 29).

20. For claim 14, Tyrrell-Fisher discloses the invention as in claim 11. Tyrrell-Fisher further discloses the server-side rendering target data handling process comprises:

a) deciding whether an event of SGD input has been occurred (Tyrrell, fig. 4 step 72, receive render files from client);

b) selectively sending commands to the rendering execution tools according to the operation status of the individual rendering execution tools (Tyrrell, col. 5 lines 45-57, rendering slots processes render frames concurrently using tools such as Maya, a render slot can have 2 statuses: empty or free);

c) checking the operation status of the rendering execution tools and deciding whether rendered data have been output from the rendering execution tools (Tyrrell, fig. 4 step 76, rendered job is acknowledged); and

d) checking the integrity of the rendered data, and deciding whether there is a rendering error (Tyrrell, col. 16 lines 19-23, file integrity or corruption check).

21. For claim 15, Tyrrell-Fisher discloses the invention as in claim 14. Tyrrell-Fisher further discloses the server-side rendering target data handling process further comprises between the step of deciding whether an event of SGD input has been occurred and the step of selectively sending commands to the rendering execution tools:

a) decrypting and decompressing the SGD (Tyrrell, col. 16 lines 5-10, 43-45, files have to be decompressed before further rendering); and

b) authenticating of the user (Tyrrell, col. 6 line 49).

22. For claim 16, Tyrrell-Fisher discloses the invention as in claim 15. Tyrrell-Fisher further discloses the server-side rendering target data handling process further comprises after the step of checking the integrity of the rendered data:

a) storing the rendered data (Tyrrell, col. 16 lines 28-31);

b) compressing and encrypting the rendered data (Tyrrell, col. 16 l. 33-35 and 43-45); and

c) transmitting the rendered data (Tyrrell, col. 16 line 29).

23. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tyrrell-ON, as applied to claim 2, in view of Fisher.

24. For claim 4, Tyrrell-ON discloses the invention as in claim 2. Tyrrell-ON further discloses the selective SGD extraction module comprises:

b) an SGD analysis section that analyzes the SGD, and selectively extracts a predetermined key information (Tyrrell, col. 6 lines 45-67, reading job description form a package of render files consisting of render frames and a job description);

c) an SGD parameter check section that checks the consistency of the key information (Tyrrell, col. 23, validate directory for existence of a file path);

f) an SGD transmission list generation section that creates an SGD transmission list for SGD, which are required to be transmitted, based on the SGD extracted by the SGD extraction section (Tyrrell, col. 15 lines 51-64, list of files or jobs to be processed remotely).

Tyrrell-ON does not explicitly disclose:

a) an SGD opening section that selectively opens the SGD produced by the SGD production tool;

d) an SGD extraction list generation section that selects SGD related to the key information among the entire SGD according to the check result of the SGD parameter check section, and creates an SGD extraction list based on the SGD selected to be extracted;

e) an SGD extraction section that extracts the selected SGD based on the SGD extraction list.

However, Fisher discloses:

a) an SGD opening section that selectively opens the SGD produced by the SGD production tool ([0043] lines 1-15, file specification is used to select files that belong to a software package such as files with a special extension (by using wildcards));

d) an SGD extraction list generation section that selects SGD related to the key information among the entire SGD according to the check result of the SGD parameter check section, and creates an SGD extraction list based on the SGD selected to be extracted; e) an SGD extraction section that extracts the selected SGD based on the SGD extraction list (fig. 6, [0043] lines 1-5, [0046], lines 1-8, generating an extraction list of files that matches certain file specifications).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Tyrrell and Fisher to speed up the process of selecting files for packaging based on file specification.

25. For claim 5, the claim is rejected for the same rationale as in claim 4.

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Valmiki et al. US 2005/0012759. Graphic system with an MPEG decoder.
- Ramsey. US 6,989,836. Acceleration of graphics.
- Callegari. US 7,076,735. Network transmission of graphical data.
- Chalfin et al. US 2004/0221004. Remotely rendered images.
- Clemic et al. US 2005/0104889. Centralized interactive graphical application server.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hieu T. Hoang whose telephone number is 571-270-1253. The examiner can normally be reached on Monday-Thursday, 8 a.m.-5 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HH

6/25/7

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